WHAT IS CLAIMED IS:

1. A method of calculating probability of collision by birds within a wind park, the method comprising:

modeling a wind turbine to create a wind-turbine model;

modeling a challenged bird to create a challenged-bird model;

modeling a wind park to create a wind-park model, the wind park comprising at least one of the wind turbine;

calculating a probability of wind-turbine collision by the challenged bird; and

wherein the step of calculating comprises using the wind-turbine model, the challenged-bird model, and the wind-park model.

2. The method of claim 1, wherein the step of modeling the wind turbine comprises:

dimensionally modeling the wind turbine; and

inputting a speed of a rotor of the wind turbine.

3. The method of claim 2, wherein the step of dimensionally modeling the wind turbine comprises:

inputting a blade depth of the rotor;

inputting a blade width of the rotor; and

modeling a monopole of the wind turbine.

4. The method of claim 1, wherein the step of modeling the challenged bird comprises:

modeling the challenged bird as a curved surface; and

wherein the challenged-bird model assumes that the challenged bird enters a plane of the rotor of the wind turbine with a belly of the challenged bird facing a hub of the rotor.

5. The method of claim 1, wherein the step of modeling the wind park comprises modeling a row of the plurality of the wind turbine.

6. The method of claim 5, wherein the step of modeling the wind park comprises determining a number of rows in the wind park.

7. The method of claim 5, wherein the step of modeling the wind park comprises determining an inter-wind-turbine distance.

8. The method of claim 1, wherein the step of calculating the probability of collision by the challenged bird comprises:

calculating a worst-case collision probability per row by the challenged bird; and

calculating a best-case collision probability per row by the challenged bird.

9. The method of claim 8, wherein:

the step of calculating the worst-case collision probability per row by the challenged bird is performed at a plurality of challenged-bird flight elevations; and

the step of calculating the best-case collision probability per row by the challenged bird is performed at the plurality of challenged-bird flight elevations.

10. The method of claim 1, wherein the step of calculating the probability of collision by the challenged bird comprises:

calculating a worst-case collision probability by the challenged bird for the wind park; and

calculating a best-case collision probability by the challenged bird for the wind park.

11. The method of claim 10, wherein:

$P_{wc} = 1-(1-P_{wcr})^{row}$;

P_{wc} is the worst-case collision probability by the challenged bird for the wind park;

P_{wcr} is the worst-case collision probability by the challenged bird per row; and

row is the number of rows in the wind park.

12. The method of claim 11, wherein P_{wc} and P_{wcr} are each a function of the challenged-bird flight elevation.

13. The method of claim 1, wherein the challenged bird is modeled as an attractor.

14. The method of claim 1, wherein the challenged bird is modeled as an avoider.

15. The method of claim 1, wherein a non-linear flight path of the challenged bird is simulated by adjusting a flight speed of the challenged bird.

16. An article of manufacture for calculating probability of collision by birds within a wind park, the article of manufacture comprising:

at least one computer readable medium; and

processor instructions contained on the at least one computer readable medium, the processor instructions configured to be readable from the at least one computer readable medium by at least one processor and thereby cause the at least one processor to operate as to:

model a wind turbine to create a wind-turbine model;

model a challenged bird to create a challenged-bird model;

model a wind park to create a wind-park model, the wind park comprising at least one of the wind turbine;

calculate a probability of wind-turbine collision by the challenged bird; and

wherein the calculation comprises using the wind-turbine model, the challenged-bird model, and the wind-park model.

17. The article of claim 16, wherein the processor instructions cause the at least one processor to:

dimensionally model the wind turbine; and

use a speed of a rotor of the wind turbine.

18. The article of claim 17, wherein the processor instructions are configured to cause the at least one processor to:

use a blade depth of the rotor;

use a blade width of the rotor; and

model a monopole of the wind turbine.

19. The article of claim 16, wherein the processor instructions are configured to cause the at least one processor to:

model the challenged bird as a curved surface; and

wherein the challenged-bird model assumes that the challenged bird enters a plane of the rotor of the wind turbine with a belly of the challenged bird facing a hub of the rotor.

20. The article of claim 16, wherein the processor instructions are configured to cause the at least one processor to model a row of the plurality of the wind turbine.

21. The article of claim 20, wherein the wind-park model comprises a number of rows in the wind park.

22. The article of claim 20, wherein the wind-park model comprises at least one inter-wind-turbine distance.

23. The article of claim 16, wherein the processor instructions are configured to cause the at least one processor to:

calculate a worst-case collision probability per row by the challenged bird; and

calculate a best-case collision probability per row by the challenged bird.

24. The article of claim 23, wherein the processor instructions are configured to cause the at least one processor to:

calculate the worst-case collision probability per row by the challenged bird at a plurality of challenged-bird flight elevations; and

calculate the best-case collision probability per row by the challenged bird at the plurality of challenged-bird flight elevations.

25. The article of claim 16, wherein the processor instructions are configured to cause the at least one processor to:

calculate a worst-case collision probability by the challenged bird for the wind park; and

calculate a best-case collision probability by the challenged bird for the wind park.

26. The article of claim 25, wherein:

$P_{wc} = 1 - (1 - P_{wcr})^{row}$;

P_{wc} is the worst-case collision probability by the challenged bird for the wind park;

P_{wcr} is the worst-case collision probability by the challenged bird per row; and

row is the number of rows in the wind park.

27. The article of claim 26, wherein P_{wc} and P_{wcr} are each a function of the challenged-bird flight elevation.

28. The article of claim 16, wherein the challenged bird is modeled as an attractor.

29. The article of claim 16, wherein the challenged bird is modeled as an avoider.

30. The article of claim 16, wherein the processor instructions are configured to cause the at least one processor to operate so as to simulate a non-linear flight path of the challenged bird by adjusting a flight speed of the challenged bird.

31. A method of calculating probability of collision by animals with at least one structure, the method comprising:

modeling a structure of the at least one structure to create a structure model;

modeling a challenged animal to create a challenged-animal model;

modeling a structure area to create a structure-area model, the structure area comprising at least one of the at least one structure;

calculating a probability of structure collision by the challenged animal; and

wherein the step of calculating comprises using the structure model, the challenged-animal model, and the structure-area model.

32. The method of claim 31, wherein the step of modeling the structure comprises dimensionally modeling the structure.

33. The method of claim 31, wherein the step of modeling the structure area comprises modeling a row of the at least one structure.

34. The method of claim 33, wherein the step of modeling the structure area comprises determining a number of rows in the structure area.

35. The method of claim 31, wherein the step of calculating the probability of collision by the challenged animal comprises:

calculating a worst-case collision probability per row by the challenged animal; and

calculating a best-case collision probability per row by the challenged animal.

36. The method of claim 31, wherein the step of calculating the probability of collision by the challenged animal comprises:

calculating a worst-case collision probability by the challenged animal for the structure area; and

calculating a best-case collision probability by the challenged animal for the structure area.

37. The method of claim 36, wherein:

$P_{wc} = 1-(1-P_{wcr})^{row}$;

P_{wc} is the worst-case collision probability by the challenged animal for the structure area;

P_{wcr} is the worst-case collision probability by the challenged animal per row; and

row is the number of rows in the structure area.

38. An article of manufacture for calculating probability of collision by animals within a structure area, the article of manufacture comprising:

at least one computer readable medium; and

processor instructions contained on the at least one computer readable medium, the processor instructions configured to be readable from the at least one computer readable medium by at least one processor and thereby cause the at least one processor to operate as to:

model a structure to create a structure model;

model a challenged animal to create a challenged-animal model;

model the structure area to create a structure-area model, the structure area comprising at least one of the at least one structure;

calculate a probability of structure collision by the challenged animal; and

wherein the calculation comprises using the structure model, the challenged-animal model, and the structure-area model.

39. The article of claim 38, wherein the processor instructions cause the at least one processor to dimensionally model the structure.

40. The article of claim 38, wherein the processor instructions are configured to cause the at least one processor to model the challenged animal as a curved surface.

41. The article of claim 38, wherein the processor instructions are configured to cause the at least one processor to model a row of the at least one structure.

42. The article of claim 41, wherein the structure-area model comprises a number of rows in the structure area.

43. The article of claim 38, wherein the processor instructions are configured to cause the at least one processor to:

calculate a worst-case collision probability per row by the challenged animal; and

calculate a best-case collision probability per row by the challenged animal.

44. The article of claim 38, wherein the processor instructions are configured to cause the at least one processor to:

calculate a worst-case collision probability by the challenged animal for the structure area; and

calculate a best-case collision probability by the challenged animal for the structure area.

45. The article of claim 44, wherein:

$P_{wc} = 1-(1-P_{wcr})^{row}$;

P_{wc} is the worst-case collision probability by the challenged animal for the structure area;

P_{wcr} is the worst-case collision probability by the challenged animal per row; and

row is the number of rows in the structure area.